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1903. D. B. & J. M. Jackson

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Subject: Monthly Summary for Biological Survey Section

The analysis of the urine will give a fair indication of the plutonium incorporated in the body. However, material taken into the lungs is not readily absorbed and a portion of it is eliminated by way of the intestines. From animal experiments it is shown that from 10 to 20% of that reaching the lungs is retained after 90 days. This, then, imposes an additional hazard if individuals constantly work in areas in which the air is even slightly contaminated with plutonium. In order to place an additional safeguard on the individual worker, frequent stool and urinary analyses should be made along with the urines.

two cases are reported in Tables I and II in which these individuals had worked in areas with above tolerance air counts or percentages. In case 2 the individual remained at home for nearly two weeks and collected urine, sputum, and stool specimens as is shown. There is a decrease in the amount of plutonium excreted with the stools. However, since no experiments have been performed to show the rate of elimination by humans, it is impossible to calculate accurately the amount of material excreted. These two cases, the only ones studied, are apparently fair indications of what might be a serious problem.

Table 2
(Case 2)

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and Hesiod (E. Eos).

A. Received 34

B. Analysed 52

The daily urinary plutonium excretion of the subject NK-200 is being followed. The Table below is a continuation of the one from MUC-HG-1205.

Table III
Daily Plutonium Urinary Excretion
(NDS-200)

Days after Injection	24-hour Volume	% of injected dose excreted
93	820 ml.	.009
99	900	.0096
101	1120	.009
102	880	.006
103	1600	.019
104	760	.0088
105	1180	.0075
106	620	.0093
107	370	.0088
108	810	.015
109	680	.0095
110	580	.011
111	580	.0145
112	760	.0089
113	4100	.0088
114	640	.0118
115	1600	.0106
116	2170	.0095
117	1500	.0078
118	6500	.0087

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